

Multivariate Statistical Methods in Quality Management



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ASSESSMENT OF WATER QUALITY OF HINDON RIVER IN GHAZIABAD AND NOIDA, INDIA BY USING MULTIVARIATE STATISTICAL METHODS

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between all authors. Author DK designed the study, wrote the protocol and interpreted the data. Author NR anchored the field study, gathered the initial data and performed preliminary data analysis. Authors NR, DK and VJ managed the literature searches and produced the initial draft. All authors read and approved the final manuscript.

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ABSTRACT

The Hindon River is an important River of western Uttar Pradesh. The river is highly polluted due to industrial, municipal and agricultural activities. In the present study, water quality of river Hindon is assessed by using Multivariate statistical methods. Water quality data obtained from eight different sampling stations has been subjected to Pearson correlation, principal component analysis and cluster analysis. Principal component analysis yields three major components which were responsible for 84% of total variance within the data set. First factor which is controlled by Total Dissolved Solids, Total Hardness, and chloride explains 36.85% of total variance. The second factor, having strong positive loading of temperature and pH explains 28.34% of the total variance and third factor that can be attributed to organic pollution is responsible for 19.71% of total variance. Hierarchical cluster analysis was carried out to classify sampling stations of certain similarity which grouped eight different sites into two clusters. Thus, the present study has helped to recognize the major components contributing to water quality and has further illustrated the significance of multivariate techniques for analysis and elucidation of water quality data.

Keywords: Multivariate; principal component analysis; cluster analysis; river water quality; Pearson correlation.

1. INTRODUCTION

Rivers are an important resource for human civilizations as they meet water demand for various uses apart from supporting flora and fauna, improving aesthetic and landscape quality, moderating climate and providing resources for hydropower [1]. Rivers also plays a significant role in the assimilation and

transportation of domestic and industrial waste waters, which form invariable pollution sources and agricultural runoff, which is temporal and commonly affected by climate [2]. Rivers are highly prone to pollution, therefore it becomes necessary to keep check on surface water quality and interpret the temporal and spatial variations [3]. Regular monitoring of the quality of water is essential because

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Request PDF on ResearchGate On Feb 24, , Kai Yang and others published Multivariate Statistical Methods in Quality Management. Abstract: Multivariate statistical methods are an essential component of quality engineering data analysis. Graphical multivariate data display, Multivariate regression and path analysis, Multivariate process control charts, Six sigma and multivariate statistical methods. Multivariate statistical methods are an essential component of quality engineering data analysis. This monograph provides a solid background in multivariate. New updated! The latest book from a very famous author finally comes out. Book of multivariate statistical methods in quality management, as an amazing. Multivariate Statistical Methods in Quality Management by Kai Yang, , available at Book Depository with free delivery. 4 Jun - 5 sec Read Now livebreathelovehiphop.com?book= [PDF] Multivariate Statistical. livebreathelovehiphop.com: Multivariate Statistical Methods in Quality Management () by Kai Yang; Jayant Trewn and a great selection of similar New , Used. Multivariate Statistical Methods In Quality Management 1st International Edition - In this site is not the same as a answer encyclopedia you purchase in a lp. Multivariate statistical methods for quality creation: a review customer needs, product quality deployment and management planning. A brief. Multivariate Statistical Methods in Quality Management, by Kai YANG and Jayant TREWN, New York: McGraw-Hill, , ISBN , xvi + pp. multivariate statistical methods in quality management by kai yang is free for downloading from our digital library. Thanks to the electronic catalog you have the. Multivariate Statistical Methods in Quality Management (English, Hardcover, Trewn Jayant Yang Kai Dr Jayant Trewn Dr Kai Yang Trewn Yang). Multivariate Statistical Methods in Quality Management. Multivariate statistical methods are an essential component of quality engineering data analysis. Multivariate statistical methods are an essential component of quality engineering data analysis. This monograph provides a solid background. ??????? ??????? ? ?????? ???????: Multivariate statistical methods in quality management, Isbn: , Author: Yang, Kai., Publisher: McGraw-Hill,, [9] Ryan T., Statistical methods for quality improvement, Wiley, Multivariate statistical methods in quality management, McGraw-Hill. Read Online or Download Multivariate Statistical Methods in Quality Management PDF. Similar Quality Control Management books. multivariate statistical methods in quality management. 1 2 3 4 5 on the most rigorous multivariate statistical methods -- a crucial tool for quality measurement. We proposed two multivariate statistical approaches for environmental quality management. . SO₂, NO_x and DF concentrations were forecasted effectively. [\[PDF\] Motorsports Star \(Celeb\)](#) [\[PDF\] The System of the World: De mundi systemate \(The System of the World - Isaac Newton\)](#) [\[PDF\] 18 Exercises After Berbiguier for All Saxophones Edited By Marcel Mule](#) [\[PDF\] New English Vietnamese Dictionary](#)

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